

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 December 2001 (06.12.2001)

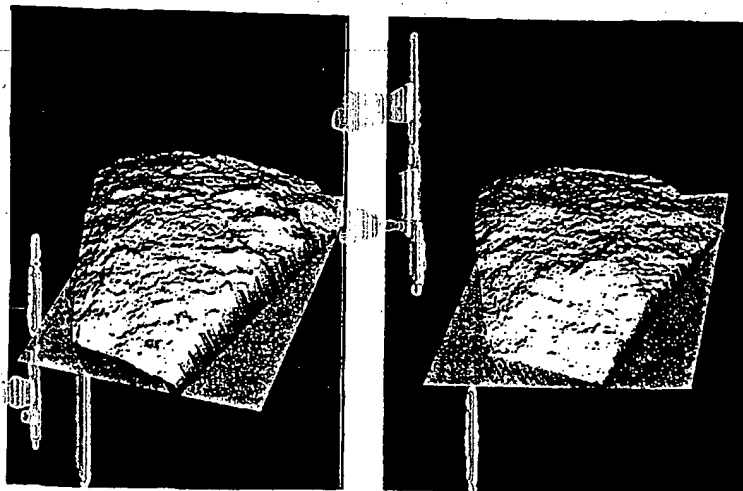
PCT

(10) International Publication Number
WO 01/91581 A3

- (51) International Patent Classification⁷: **A23L 1/164** Susan, Louise; 7017 Lakota Ridge Drive, Hamilton, OH 45011 (US).
- (21) International Application Number: **PCT/US01/17090**
- (22) International Filing Date: **25 May 2001 (25.05.2001)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/207,939 27 May 2000 (27.05.2000) **US**
- (71) Applicant: **THE PROCTER & GAMBLE COMPANY**
[US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).
- (72) Inventors: **ZIMMERMAN, Stephen, Paul**; 270 Ritchie Avenue, Cincinnati, OH 45215 (US). **WOO, Amy, Kai**; 6940 Van Gorden Road, Hamilton, OH 45011 (US). **JOA,**
- (74) Agents: **REED, T., David et al.**; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

[Continued on next page]

(54) Title: **TORTILLA CHIPS WITH CONTROLLED SURFACE BUBBLING**



(57) Abstract: Uniformly shaped snack chips, preferably tortilla-type chips, having raised surface features and a method for preparing the same. The chips can be made from a dough composition comprising pre-cooked starch-based material and pregelatinized starch. Preferably, the snack chips have raised surface features comprising from about 12 % to about 40 % large surface features; from about 20 % to about 40 % medium surface features; and from about 25 % to about 60% small surface features. In one embodiment, the average thickness of the snack chip is from about 1 mm to about 3 mm; the average thickness of raised surface features is from about 2.3 mm to about 3.2 mm; the maximum thickness of the chip is less than about 5.5 mm; and the coefficient of variation of the chip thickness is greater than about 15 %.

WO 01/91581 A3



IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
21 March 2002

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/17090

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/164

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A23L A21B A47J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 20125 A (PROCTER & GAMBLE) 29 April 1999 (1999-04-29) figures page 1, paragraph 3 -page 9, paragraph 7 page 17, paragraph 3 - paragraph 4; examples	1-11
X	US 4 994 295 A (HOLM DAVID ET AL) 19 February 1991 (1991-02-19) figures column 1, paragraph 2 column 4, paragraph 4 -column 6, paragraph 2 column 8, paragraph 3 column 9, line 51 -column 12, line 45 column 13, line 5 - line 30 examples	1-11



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

7 December 2001

Date of mailing of the international search report

17/12/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Vuillamy, V

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/17090

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 861 609 A (WILLARD MILES J ET AL) 29 August 1989 (1989-08-29) column 2, line 55 -column 4, line 68 examples ---	1-11
X	US 5 400 704 A (HUSTON ROY) 28 March 1995 (1995-03-28) column 2, line 18 - line 44 column 4, line 37 - line 39 -----	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PLI/US 01/17090

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9920125	A	29-04-1999	AU 1098599 A	10-05-1999
			BR 9813130 A	15-08-2000
			CN 1280462 T	17-01-2001
			EP 1024707 A1	09-08-2000
			JP 2001520029 T	30-10-2001
			WO 9920125 A1	29-04-1999
			US 6228414 B1	08-05-2001
			US 2001024674 A1	27-09-2001
			US 2001038877 A1	08-11-2001
US 4994295	A	19-02-1991	US 4931303 A	05-06-1990
			CA 1321916 A1	07-09-1993
			DE 68909424 D1	04-11-1993
			DE 68909424 T2	28-04-1994
			EP 0324460 A2	19-07-1989
			HK 128594 A	25-11-1994
			JP 1215257 A	29-08-1989
			JP 2604460 B2	30-04-1997
			KR 9611517 B1	23-08-1996
			PH 25888 A	02-12-1991
			SG 130294 G	13-01-1995
US 4861609	A	29-08-1989	NONE	
US 5400704	A	28-03-1995	US 5236727 A	17-08-1993